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MMPI PROFILES OF NORMAL PEOPLE WHO DISPLAY FREQUENT TEMPORAL-LOBE SIGNS[1]

M. A. PERSINGER

Laurentian University

Summary.—Comparisons were made between personality (MMPI) profiles of 26 part-time university students who scored in the upper and 29 students who scored in the lower one-quarter of the range on a scale that measures temporal-lobe signs in the normal population. Compared to the reference group, the subjects who displayed more temporal-lobe signs showed statistically significant elevations above a *T* score of 70 on Schizophrenia and Hypomania. There were secondary elevations on Psychasthenia and frequency scales. Similar profiles whose high-point scores display greater amplitude are typical for patients with schizotypal disorders and for many patients who have long histories of temporal lobe epilepsy. These results support the existence of a continuum of temporal-lobe lability that extends into the normal population.

A continuum of temporal-lobe lability has been hypothesized to exist within the normal population (3). People who are on the labile side of this continuum should have displayed most of the major themes of ictal and interictal experiences but without convulsions. The Personal Philosophy Inventory (4, 5) contains items that reflect such experiences; it has been tested on approximately 500 students whose ages ranged from 18 to 50 yr. Strong positive correlations have been found between the numbers of temporal-lobe signs (such as feelings of vibrations, episodes of meaningfulness, poetry/prose writing) and the numbers of paranormal experiences and sensations of presences. High scorers on the various clusters of temporal lobe items from the inventory display significantly more compulsive thinking, affective anxiety, suspiciousness, and intellectual inefficiency as defined by the California Personality Inventory (4).

The present study was conducted to determine the MMPI (Minnesota Multiphasic Personality Inventory) profiles of people who score in the upper range of the temporal-lobe cluster (CPES for Complex Partial Epileptic Signs) that includes 16 items whose contents express the equivalents of classic ictal experiences. A total of 118 part-time university students (67 women and 51 men) between the ages of 18 and 45 yr. ($M = 22.3$ yr.) were administered the MMPI and the Personality Philosophy Inventory. Both were scored by automated programs and analyzed on a VAX computer with SPSSX software. In addition, extra clusters were calculated from the MMPI items: overthinking (rumination), intellectual efficiency, affective anxiety, and social adjustment.

[1]Neuroscience Laboratory, Laurentian University, Sudbury, Ontario, Canada P3E 2C6.

Students with CPES scores within the upper 25th percentile ($n = 26$) were called high scorers while those from the lower 25th percentile ($n = 29$) were called low scorers. For control, students whose scores on the 16 items of the control cluster (mundane items to control for yes responders) were within the upper 25th percentile ($n = 30$) or lower 25th percentile ($n = 31$) were compared. There were similar numbers of men and women in both groups for both clusters.

To ensure construct validity, comparisons were made between high (1/3) and low (1/3) scorers on a cluster composed of eight items (from a major cluster of 29 items) that entered a multiple regression analysis to produce a correlation of 0.50 with alpha activity over the temporal lobes from another study (2). Item themes were sleep immobilization, maintaining a dairy about feelings, rumination about lost arguments, sleep walking, derealization in a crowd, smell from childhood before tripping, vestibular sensations like driving over a rolling road and early morning meaningfulness.

The means and standard deviations of *T*-scores for the high temporal lobe scorers and low scorers, respectively, on the validity and clinical scales of the MMPI were: *L* (44 ± 5, 46 ± 6), *F* (65 ± 10, 56 ± 8), *K* (46 ± 8, 53 ± 7), Hypochondriasis (61 ± 13, 56 ± 10), Depression (57 ± 9, 58 ± 12), Hysteria (56 ± 11, 58 ± 9), Psychopathic Deviate (60 ± 13, 63 ± 11), Masculinity-Femininity (male: 60 ± 8, 58 ± 7; female: 44 ± 8, 48 ± 6), Paranoia (65 ± 11, 58 ± 10), Psychasthenia (66 ± 10, 58 ± 9), Schizophrenia (70 ± 13, 58 ± 10), Hypomania (70 ± 9, 56 ± 11), and Social Introversion (54 ± 11, 54 ± 8). *F* values for the statistically significant differences ($p < .01$) between the two groups (all $df = 1/53$) were for *F* (15.81), *K* (10.36), Psychasthenia (7.89), Schizophrenia (21.74), and Hypomania (22.39). The only significant difference between the high and low scorers on the control clusters for the validity and clinical scales was for the Lie scale ($F_{1,59} = 8.91$, $p < .001$). These values for the high and low scorers were 42 ± 5 and 48 ± 6, respectively. The only significant difference between men and women (except for the *M* scale) for the high-scoring group on the temporal-lobe cluster involved Schizophrenia; women (65 ± 12) were significantly lower than men (74 ± 11). When the high responders from the EEG-referenced temporal-lobe scale (8 items) were compared with their reference group the dominant *Ma, Sc* profile emerged again.

These results indicate that people who report a large number of temporal-lobe signs also display a primary elevation of the *Sc* (schizoid) and *Ma* (hypomania) scales and a secondary elevation on *Pt* and possibly *Pa*, compared to people who do not display many temporal-lobe signs. Normal people who display these profiles tend to be impulsive, worrying, opinionated, extraverted, and verbal (often with philosophical or aesthetic interests). At times,

they may be imaginative, versatile, and ingenious. If thought disorder has emerged (as intellectual inefficiency) people who display these profiles are prone to circumstantiality, religiosity, stereotyped thinking, panic, anxiety, a sense of the personal, delusions, and hyperactivity.

The patterns are also characteristic of patients with diagnosed complex partial epilepsy that involves active foci in the temporal lobes. Secondary scales from the MMPI verified the pattern. Subjects in the high scoring group for the CPES cluster were significantly higher ($p < .01$) than the low scorers on ruminative thinking (66 ± 8, 53 ± 8), and affective anxiety (62 ± 10, 53 ± 12); there was no difference between the groups on a social-adjustment cluster (51 ± 14, 51 ± 8). The elevated scores on the frequency (F) scale are commensurate with the hypothesis that temporal lability predisposes the person to make unusual associations between events (and their response to them) given sensory-limbic hyperconnections (5).

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